REVIEW OF PLANT PATHOLOGY

Volume 54



Prepared by

Commonwealth Mycological Institute, Kew

ISSN 0034-6438

© Commonwealth Agricultural Bureaux 1976

All rights reserved. No part of this publication may be reproduced in any form or by any means, electronically, mechanically, by photocopying, recording or otherwise, without the prior permission of the copyright owner.

The Executive Council of the Commonwealth Agricultural Bureaux is a signatory to the Fair Copying Declaration, details of which can be obtained from The Royal Society, 6 Carlton House Terrace, London, S.W.1.

published by

Commonwealth Agricultural Bureaux,
Farnham House, Farnham Royal,

SLOUGH SL2 3BN, UK.

printed by

COMMONWEALTH AGRICULTURAL BUREAUX

The Commonwealth Agricultural Bureaux (CAB) is a co-operative venture established by Commonwealth Governments. The organization is controlled by an Executive Council composed of nominees of the various Commonwealth Governments, including one for the Dependent Territories. On the following pages are lists of the present members of the Executive Council, together with the names of Liaison Officers who form the primary link in the member country. The organization exists to provide specialized services for agricultural scientists and, through an Institute based in Trinidad with stations in various parts of the world, to undertake field work in biological control.

CAB provides the only comprehensive information service for agricultural research workers. It is based on 19 abstract journals which, taken together, cover the whole range of agricultural science. Contemporary world literature in many languages is scanned for items worthy of noting by abstract or title in the journals, and since 1973 all references have been taped. The current data base, already containing ¼ million items, grows by approximately 125,000 references per annum, and all or part can now be made available for machine retrieval.

Identification services are provided for entomologists, mycologists and helminthologists. Other services include: bibliographies (with or without annotations), review articles, technical monographs (some of which are standard works), photocopies of source papers, answering enquiries.

The work of CAB is largely carried out through a number of Institutes and Bureaux, each dealing with a particular aspect of agricultural science. Enquiries on scientific aspects of CAB work should be sent to the Director of the appropriate Institute or Bureau. Other enquiries should be sent to the Secretary, CAB, E.A. Runacres at the address at the foot of the page, or to Liaison Officers in member countries.

Institutes

Commonwealth Institute of Entomology, 56 Queen's Gate, London SW7 5JR Acting Director: A.H. Parker, MSc. PhD.

Commonwealth Mycological Institute, Ferry Lane, Kew, Richmond TW9 3AF

Director: A. Johnston, BSc, AICTA, FIBiol.

Commonwealth Institute of Biological Control, Gordon Street, Curepe, Trinidad, West Indies
Director: F.J. Simmonds, MA. PhD. DSc. FRSA.

Commonwealth Institute of Helminthology, The White House, 103 St. Peter's Street, St. Albans, Herts.

Director: Miss S.M. Willmott, PhD. FiBiol.

Bureaux

Agricultural Economics, Dartington House, Little Clarendon Street, Oxford OX1 2HH
Director: 1.O. Jones. MA.

Animal Breeding and Genetics, Animal Breeding Research Organization, The King's Buildings, West Mains Road, Edinburgh EH9 3JX Director: J.D. Turton, BSc, MRCVS, DTVM.

Animal Health, Central Veterinary Laboratory, New Haw, Weybridge, Surrey Acting Director: R.M. Mack, FRCVS.

Dairy Science & Technology, National Institute for Research in Dairying, Shinfield, Reading RG2 9AT Director: E.J. Mann. NDD, CDD.

Forestry, Commonwealth Forestry Institute, South Parks Road, Oxford OX1 3RD Director: P.G. Beak, MBE, MA.

Horticulture & Plantation Crops, East Malling Research Station, Maidstone ME19 6BJ, Kent Director: G.E. Tidbury, BSc, ARCS, AICTA, FIBiol.

Nutrition, Rowett Research Institute, Bucksburn, Aberdeen AB2 9SB

Director: Miss D.L. Duncan, BSc, PhD.

Pastures & Field Crops, Hurley, Maidenhead SL6 5LR Director: P.J. Boyle, MA.

Plant Breeding & Genetics, Department of Applied Biology, Downing Street, Cambridge CB2 3BX Director: R.H. Richens, MA, PhD.

Soils, Rothamsted Experimental Station, Harpenden ALS 2JQ
Acting Director: B. Butters, MSc. DipAgr. DTA, DIC, ARCS.

Headquarters

EXECUTIVE COUNCIL

(as at 31 October, 1975)

Member						Representing
T.N. TANDON (Chairman)	***	***	***	***	***	India
J.W. GREENWOOD (Vice-Chairman)	***	***	***	***	***	Canada
G.M.P. MYERS	***	***	>50	***	***	United Kingdom
R.D. CROLL	***	***	***	***	***	Australia
C.M. PALMER	***	***	***	***	***	New Zealand
A. JAYASINHA	***	***	***	***	***	Sri Lanka
J.G. BAETA	***	***	***	***	***	Ghana
S.H. BAKAR	***	***	***	***	***	Malaysia
THE FIRST SECRETARY	***	***	***	***	***	Nigeria
J.K. SHEKERIS	***	. ***	***	***	***	Cyprus
H.E. THE HIGH COMMISSIONER	***	***	***	***		Sierra Leone
Y. OSMAN	***	***	***	***		Tanzania ,
THE DEPUTY HIGH COMMISSIONER	***	***	***	***		Jamaica
MRS. J. GEORGE	***	***	***	***	***	Trinidad & Tobago
THE AGRICULTURAL ATTACHE	***	***	***	***	***	Uganda
H.E. THE HIGH COMMISSIONER	***	***	***	***	***	Kenya
M.V. PHIRI	***	***	***	***		Malawi
THE TRADE COMMISSIONER	***	***	***	***	***	Zambia
A.T. SALLAH	***	***	***	***	***	The Gambia
R.E. CHANDISINGH	***	***	***	***		Guyana
H.E. THE HIGH COMMISSIONER	***		***	***	***	Botswana
THE DEPUTY HIGH COMMISSIONER	***	***	***	***		Barbados
J.G. FOKEER	***	***	***	***	***	Mauritius
E.M. NHLABATSI	***		***	***	***	Swaziland
M. SAHADEO	***	***	***	***	***	Fiji
Q.A.M.A. RAHIM	***		***	***		Bangladesh
H.E. SIR. ALVIN BRAYNEN		***		***		The Bahamas
W.D. MANICE				***	***	Dependent Territories

M. SAHADEO		***	***	***	***	***	Fiji						
Q.A.M.A. RAHIM						***	Bangladesh						
H.E. SIR. ALVIN BRA	AYNEN		***		***		The Bahamas						
W.D. MANICE		***	***		***		Dependent Territories						
D.G. THOMAS,	Secretary, Commonw	ealth	Scien	tific C	omm	ittee (Ob	server)						
E.A. RUNACRE	ES (Secretary)		***	***	***	***	Farnham Royal,						
							Slough, SL2 3BN						
	I	LIAIS	SON	OFFI	CER	S							
Contributing country	Liaison Officer					Address							
Contributing country	Liaison Officer					Aaaress							
United Kingdom	Under Secretary						ral Research Council,						
							at Portland Street, WIN 6DT						
						London	111 001						
Canada	G.M. Carman, BSA,	MSc,	PhD.			Director, Information Division,							
						Administration Branch, Canada, Department of Agriculture,							
						1105, Sir	John Carling Building,						
						Ottawa, (Ontario, K1A 0C7						
Australia	P.F. Butler, MAgrSc	5.				Assistant	Secretary,						
					(Agricultural & Biological Sciences) Commonwealth Scientific and Industrial								
							Organization,						
							25, Dickson, A.C.T. 2602.						
New Zealand	G.W. Butler, MSc, F	ildr. l	FRSN	Z.		Assistant	Director-General,						
						Departme	ent of Scientific and						
							Research, ag, Wellington.						
						riivate b	ag, weilington.						
India	M.S. Swaminathan,	BSc,				Director-General,							
	BScAgr, PhD, AIAR	(I, FN	11				ouncil of Agricultural Research, avan, New Delhi 1.						
						KI ISHI DI	avan, New Denn 1.						
Sri Lanka	C.R. Panabokke, BS	ic, Ph	D.			Deputy I	Director of Agriculture (Research)						
						Central A	gricultural Research Institute, wa, Peradeniya,						
Ghana	General Secretary						or Scientific and Industrial Research 1.32, Accra						
						PO BOX N	n.52, Accia						

Malaysia	Permanent Secretary	Ministry of Agriculture and Co-operatives, Swettenham Road, Kuala Lumpur.
Nigeria	Secretary	Agricultural Research Council of Nigeria, Private Mail Bag 5382, Moor Plantation, Ibadan.
Cyprus	R. Chr. Michaelides, BSCAgr, NDA, DipAgrEc.	Director-General, Ministry of Agriculture and Natural Resources, Nicosia.
Sierra Leone	Research Co-ordinator	Njala University College, Njala.
Tanzania	Director of Agriculture	PO Box 9071, Dar-es-Salaam.
Jamaica	L.E. McLaren, BSc, MRCVS, PhD, MIBiol.	Technical Officer, Ministry of Agriculture, PO Box 480, Kingston 6.
Trinidad & Tobago	Chief Technical Officer (Agriculture)	Ministry of Agriculture, Lands and Fisheries, St. Clair Circle, Port-of-Spain, Trinidad.
Uganda	Commissioner of Agriculture	Ministry of Agriculture, Forestry and Co-operatives, Department of Agriculture, PO Box 2, Entebbe.
Kenya	Under Secretary	Ministry of Agriculture, PO Box 30028, Nairobi.
Malawi	Director of Agricultural Research	Ministry of Agriculture & Natural Resources, PO Box 30134, Capital City, Lilongwe 3.
Zambia	Permanent Secretary	Ministry of Rural Development, PO Box RW. 197, Lusaka.
The Gambia	L.J. Marenah, BScAgr, PhD, DipAgr, DTA.	Director of Agriculture, Department of Agriculture, Cape St. Mary.
Guyana	Deputy Chief Agricultural Officer (Research)	Ministry of Agriculture and Natural Resources, Central Agricultural Station, Mon Repos, East Coast Demerara.
Botswana	The Permanent Secretary	Ministry of Agriculture, Private Bag 3, Gaborone.
Barbados	Chief Agricultural Officer	Ministry of Agriculture, Commerce, Science and Technology, Crumpton Street, Bridgetown.
Mauritius	B.D. Roy	Chief Agricultural Officer, Agricultural Services, Reduit.
Swaziland	O.Z. Dhlamini	Under Secretary, Office of Permanent Secretary, Ministry of Agriculture, PO Box 162, Mbabane.
Fiji	Secretary	Agriculture, Fisheries and Forests, Suva.
Bangladesh	A.H.M.A. Hye	Deputy Secretary (Development), Ministry of Agriculture, Government of Bangladesh, Dacca.
The Bahamas	The Permanent Secretary	Ministry of Agriculture & Fisheries, PO Box 28, Nassau, The Bahamas.
Dependent Territories	A.R. Melville, CMG, BSc, AICTA	Agricultural Adviser, Overseas Development Administration, Eland House, Stag Place, London, SWIE 5DH
Irish Republic	D.O'Muirthile	Assistant Principal Officer, Department of Agriculture and Fisheries (Development Division), Upper Merrion Street, Dublin 2.

COMMONWEALTH MYCOLOGICAL INSTITUTE

STAFF

Director & Editor: A. Johnston, B.Sc., A.I.C.T.A.

Assistant Director: C. Booth, Ph.D.

Scientific Information Officers: P. Basu, B.Sc.; N. Churchich, Ph.D.; P. Holliday, M.A.; Miss R. Ibbotson, Ph.D.; Mrs. P.M. Reid, M.Sc. Dip.Inf.Sci.; Mrs. I.M. Ross.

Principal Mycologist: M.B. Ellis, Ph.D.

Mycologists: Miss B.L.K. Brady, Ph.D.; D.L. Hawksworth, Ph.D.; Mrs. J.A. Lunn, B.A.; Miss J.E.M. Mordue, Ph.D.; J.L. Mulder, Ph.D.; Mrs. A.H.S. Onions, Ph.D.; E. Punithalingam, Ph.D.; A. Sivanesan, Ph.D.; Miss D.J. Stamps, Ph.D. (Assistant Editor); Miss P.M. Stockdale, Ph.D. (Assistant Editor); B.C. Sutton, Ph.D.

Bacteriologist: J.F. Bradbury, Ph.D.

ODM Scientific Liaison Officers: I.A.S. Gibson, Ph.D.; J.M. Waller, M.A.

The Editor gratefully acknowledges the assistance with this volume of Mrs. V.J. Dring, B.Sc.

REVIEW OF PLANT PATHOLOGY

CONTENTS

REVIEW ARTICLES										
CEVIEW ARTICLES	3									Dema
										Page
m 1 11 D1			A D		6 D	4 337	-1-			
Take-all Diseases	of Gramin	neae:	A Ke	view o	I Kece	ent wo	DIK			
By J. Walker	***				***	***	***	***	***	113
Plant Pathology is	n Peninsu	lar M	alavsia	a						
The second secon										297
By W.P. Ting		***	***	***	400	***	***	***	•••	291
European Canker	of Apple	(Nec	tria ga	illigen	a)					
By T.R. Swinb	urne	***		***	***					787
A Bibliography of					d Fun	ori				
			Disca	ses all	u run	R1				0.00
V. Australasia	and Ocea	nia	***	***	***	***			•••	963
BSTRACTS										
		D	ARTS	1 6						
		FF	INIS	1-0						
Reports				***	1	55	145	223	307	383
Miscellaneous pub	lications		***	***	_	55	149	224	309	384
Books					-	_	149	224	_	385
Bacteria			***	***	5	56	150	225	310	385
Entomogenous fur					6	_	151	226	312	386
Fungicides			***		6	57	152	227	312	389
Antibiotics			***		10	58	153	228	314	391
Legislation			2.		_		154		314	_
Mycorrhiza					10	59	154	228	315	392
Physiology			***		11	59	155	229	315	392
Soils			***		13	63	158	231	318	395
Systematic mycolo			•••		14	64	160	233	319	396
Techniques					15	66	163	236	320	398
Viruses and mycoj	plasmas ,				15	66	163	237	321	398
Crops, general				***	20	71	168	242	326	404
Cacao					21	72	170	243	-111	406
Cereals			***		21	73	171	243	326	407
Citrus			***		30	82	180	252	338	421
Coffee				***	31	83	181	254	340	423
Cotton			***	***	32	84	182	255	341	424
Fibre plants					32		184	256	342	427
Flowers and ornan			•••		33	86	184	257	343	427
Fodder and herbag	ge crops.				34	87	188	260	344	431
Fruit					35	88	189	262	346	434
Grapevine		,	***		40	93	195	267	354	443
Hops				•••	_		-	271	354	445
Officinal Plants					40	94	198	271	355	446
Palms			•••	***	_	-		272	356	447
Potato	*** *		•••	•••	41	95	198	273	357	448
Rubber		/	•••	•••	_	_	203	276	359	-
Sugarcane		••	•••	***		97	203	277	360	453
Tea	***	••	•••	•••	42	-	204	-	360	454
Tobacco	***		•••	•••	42	98	204	278	360	454
Tomato	*** /**	••	***	•••	43	100	205	279	362	457
Trees	***	••	***	***	44	101	207	281	363	461

PARTS 7-12

Reports	ABSTRACTS										
Books	Reports	***		***	***	483	581	667	801	881	967
Bacteria	Miscellaneous publ	ications				493	583	675	803	886	974
Entomogenous fungi	Books	***	***	***	***	-	583	675	804	886	974
Fungicides	Bacteria	***		***		493	584	675	804	886	974
Antibiotics	Entomogenous fun	gi		***		495	587	677	806	897	976
Legislation	Fungicides	***		***	***	496	587	678	807	897	977
Mycorrhiza 499 589 681 809 890 980 Physiology 499 591 683 809 892 981 Soils 503 594 687 813 895 983 Systematic mycology 504 595 689 814 896 984 Techniques 507 599 693 898 985 Viruses and mycoplasmas 508 599 693 815 899 986 Crops, general 512 603 698 819 904 991 Cacao 514 701 905 992 Cereals 515 604 702 821 906 993 Citrus 527 619 721 836 915 1005 Coffee 527 619	Antibiotics	***		***		498	589	681	808	890 9	78
Physiology	Legislation	1.	***	***	***		-6400	-	-	890 9	980
Soils 503 594 687 813 895 983 Systematic mycology 504 595 689 814 896 984 Techniques 507 599 693 - 898 985 Viruses and mycoplasmas 508 599 693 815 899 986 Crops, general 512 603 698 819 904 991 Cacao 514 701 905 992 Cereals 515 604 702 821 906 993 Citrus 527 619 721 836 915 1005 Coffee 528 620 723 838 917 1006 Cotton 531 622 839 917 <td></td> <td>***</td> <td></td> <td>***</td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> <td>980</td>		***		***							980
Systematic mycology 504 595 689 814 896 984 Techniques 507 599 693 898 985 Viruses and mycoplasmas 508 599 693 815 899 986 Crops, general 512 603 698 819 904 991 Cacao 514 701 905 992 Cereals 515 604 702 821 906 993 Citrus 527 619 721 836 915 1005 Coffee 528 620 723 838 917 1006 Cotton 528 621 724 838 917 1007 Flowers and ornamentals <	Physiology	***			***	.499	591	683	809	892	981
Techniques 507 599 693 — 898 985 Viruses and mycoplasmas 508 599 693 815 899 986 Crops, general 512 603 698 819 904 991 Cacao 514 — 701 — 905 992 Cereals 515 604 702 821 906 993 Citrus 527 619 721 836 915 1005 Coffee 528 620 723 838 917 1006 Cotton 531 622 723 838 917 1007 Fibre plants 531 622 723 840 918 1008 Fodder and herbage crops 537 623 725 840 918											
Viruses and mycoplasmas 508 599 693 815 899 986 Crops, general 512 603 698 819 904 991 Cacao 514 — 701 — 905 992 Cereals 515 604 702 821 906 993 Citrus 527 619 721 836 915 1005 Coffee 528 620 723 838 917 1006 Cotton 531 622 — 839 917 1007 Fibre plants 531 622 — 839 917 1007 Flowers and ornamentals 531 622 — 839 917 1007 Flowers and ornamentals 534 <td></td> <td>gy</td> <td>***</td> <td>***</td> <td>***</td> <td></td> <td></td> <td></td> <td>814</td> <td>896</td> <td>984</td>		gy	***	***	***				814	896	984
Crops, general 512 603 698 819 904 991 Cacao 514 - 701 - 905 992 Cereals 515 604 702 821 906 993 Citrus 527 619 721 836 915 1005 Coffee 528 620 723 838 917 1006 Cotton 528 621 724 838 917 1007 Fibre plants 531 622 - 839 917 1007 Flowers and ornamentals 532 623 725 840 918 1008 Fodder and herbage crops 534 627 729 844 921 1010 Fruit 537 629 731 846 922 1012 Grapevine 545 635 743 856 931 1017 Hops 547 637 744 856 - 1017 Officinal Plants 548 639 746 858 935 1018 Potato 548 639 746 858 936 1019 Rubber				•••	***						
Cacao 514 — 701 — 905 992 Cereals 515 604 702 821 906 993 Citrus 527 619 721 836 915 1005 Coffee 528 620 723 838 917 1006 Cotton 528 621 724 838 917 1007 Fibre plants 531 622 — 839 917 1007 Flowers and ornamentals 840 918 1008 Fodder and herbage crops 623 725 840 918 1008 Fodder and herbage crops 727 844 921 1010 Fruit <td< td=""><td>Viruses and mycop</td><td>lasmas</td><td></td><td>***</td><td></td><td></td><td></td><td></td><td></td><td></td><td></td></td<>	Viruses and mycop	lasmas		***							
Cereals 515 604 702 821 906 993 Citrus 527 619 721 836 915 1005 Coffee 528 620 723 838 917 1006 Cotton 528 621 724 838 917 1007 Fibre plants 531 622 — 839 917 1007 Flowers and ornamentals 532 623 725 840 918 1008 Fodder and herbage crops 534 627 729 844 921 1010 Fruit 537 629 731 846 922 1012 Grapevine 545 635 743 856 931 1017		***	***	***	***		603		819		
Citrus 527 619 721 836 915 1005 Coffee 528 620 723 838 917 1006 Cotton 528 621 724 838 917 1007 Fibre plants 531 622 — 839 917 1007 Flowers and ornamentals 532 623 725 840 918 1008 Fodder and herbage crops 534 627 729 844 921 1010 Fruit 537 629 731 846 922 1012 Grapevine 547 637 744 856 931 1017 Hops 547 637 744 856 931 1018 Palms	2000	***		***	***						
Coffee 528 620 723 838 917 1006 Cotton 528 621 724 838 917 1007 Fibre plants 531 622 - 839 917 1007 Flowers and ornamentals 532 623 725 840 918 1008 Fodder and herbage crops 534 627 729 844 921 1010 Fruit 537 629 731 846 922 1012 Grapevine 545 635 743 856 931 1017 Hops 547 637 744 856 - 1017 Officinal Plants 547 637 744 857 933 1018 Palms		***	***	***							
Cotton 528 621 724 838 917 1007 Fibre plants 531 622 - 839 917 1007 Flowers and ornamentals 532 623 725 840 918 1008 Fodder and herbage crops 534 627 729 844 921 1010 Fruit 537 629 731 846 922 1012 Grapevine 545 635 743 856 931 1017 Hops 547 637 744 856 — 1017 Officinal Plants 548 639 746 858 935 1018 Palms 548 </td <td></td> <td>***</td> <td></td> <td>***</td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> <td>005</td>		***		***							005
Fibre plants		***		***							006
Flowers and ornamentals		***	•••	***	***			724			
Fodder and herbage crops 534 627 729 844 921 1010 Fruit 537 629 731 846 922 1012 Grapevine 545 635 743 856 931 1017 Hops 547 637 744 856 — 1017 Officinal Plants 547 637 744 856 — 1017 Officinal Plants 548 639 746 858 935 1018 Palms 548 639 746 858 935 1018 Potato 548 639 746 858 936 1019 Rubber 551 642 — 939 — Sugarcane 551 642 — 939 — Sugarcane 551 642 754 862 939 1023 Tea 552 642 755 — 940 1024 Tobacco 555 644 757 863 943 1025 Trees 556 648 761 865 945 1027 Vegetables 556 648 761 865 945 1027 Vegetables 556 655 770 871 950 1034				***	***						
Fruit			***	***	***						
Grapevine		e crops		***							
Hops		***	***	***	***						
Officinal Plants 547 637 744 857 933 1018 Palms 548 639 746 858 935 1018 Potato 548 639 746 858 936 1019 Rubber 551 642 - 939 - Sugarcane 551 642 754 862 939 1023 Tea		***	***	***	***						
Palms 548 639 746 858 935 1018 Potato 548 639 746 858 936 1019 Rubber		***	***	***	***						
Potato		***	***	***	***						
Rubber		***	***		***						
Sugarcane 551 642 754 862 939 1023 Tea 552 642 755 - 940 1024 Tobacco 552 643 755 862 940 1024 Tomato 556 644 757 863 943 1025 Trees 556 648 761 865 945 1027 Vegetables 565 655 770 871 950 1034 AUTHOR INDEX		***	***	***	***			746	858)19
Tea		***	***	***	***						-
Tobacco 552 643 755 862 940 1024 Tomato 555 644 757 863 943 1025 Trees 556 648 761 865 945 1027 Vegetables 565 655 770 871 950 1034 AUTHOR INDEX 1049		***	***	***	***				862		
Tomato 555 644 757 863 943 1025 Trees 556 648 761 865 945 1027 Vegetables 565 655 770 871 950 1034 AUTHOR INDEX 1049		***	• • •	***	•••						
Trees 556 648 761 865 945 1027 Vegetables 565 655 770 871 950 1034 AUTHOR INDEX 1049		***	•••	•••							
Vegetables/ 565 655 770 871 950 1034 AUTHOR INDEX 1049		***	***	***	***						
AUTHOR INDEX 1049		***	***	***	***						
111 111 111	vegetables	*** /	***	***	***	565	655	770	871	950 10	134
111 111 111											
CITE TECT TAINEY		***		•••	***						
SUBJECT INDEX 1101	SUBJECT INDEX	***	•••		***					1	101

REVIEW OF PLANT PATHOLOGY

READERS' GUIDE

1975

The primary object of the *Review* is to provide a monthly survey of the more important recent world literature on diseases of plants caused by fungi, bacteria, viruses, mycoplasmas and nonpathogenic factors. It aims at supplying sufficiently full abstracts to enable readers to keep informed of the progress of current work and to allow them to decide whether they require to see the original document.

Some 950 serial publications, including other abstracting journals, are examined regularly; they are listed in this number. Many others, together with miscellaneous publications and books, are also scanned. An effort is made to note all new data; previously published information, well known facts and popular articles may be omitted. Some background papers are noticed by very brief notices, and some of local or marginal interest by titles only. Taxonomic papers are listed in the Institute's half-yearly Bibliography of Systematic Mycology, which forms a useful supplement to the Review. New generic and specific names of fungi are compiled in the Index of Fungi.

To notice new work as soon as possible early results are frequently taken from summaries in annual reports and other official publications; subsequent, more detailed publication of the same results in journals can then be treated more briefly. Back references to the Review (in square brackets) are given to link related publications and also to enable further details to be traced quickly. References are also given to the Institute's Distribution Maps of Plant Diseases (as [CMI Map 123]) when the record is a new one for the map cited, or when more information on distribution is relevant.

When consulting an entry the reader should remember that the title is an integral part of the abstract and may include data necessary for its full comprehension.

In a typical citation the name(s) of the author(s) are followed by the title of the paper in English. If the paper is written in a language other than English, the English translation of the title is enclosed in square brackets. The title in the original language, if not English, follows, except for Arabic, Chinese, Japanese etc. Cyrillic characters are transliterated on a system based on a collation of International Standard ISO/R9 1968(E) and the draft International Standard ISO/TC46 955E Rev. Journal titles are next given in unabbreviated form. The year of issue, in round brackets, the volume number, part number in round brackets, and first and last page numbers of the article complete the basic citation.

Supplementary details given in square brackets include the language of the paper (a two-letter abbreviation with an initial capital) and the language of any summary or summaries in languages other than that of the paper (a similar abbreviation without an initial capital); and there may also be included the number of references, plates, figures, graphs, maps, tables. The affiliation of the first author is also usually given in abbreviated form.

Every effort is made to achieve consistency in the nomenclature of pathogens used in the Review. The names of fungi and bacteria are kept in line with the International Codes of Botanical and Bacteriological Nomenclature and with current taxonomic opinion. Preferred names are given, where necessary, in square brackets in the abstract and are used in the subject index. Whenever the perfect state of a fungus is known and generally accepted the name applied to this state is used, even if the paper abstracted refers only to the imperfect state (e.g. Drechslera oryzae is always referred to as the perfect state, Cochliobolus miyabeanus). Virus names are generally those given by the author. Synonyms are listed in the Institute's publication, Plant Virus Names (Phytopathological Paper 9, 1968 and Supplement 1, 1971).

The abstracts are arranged in a repeating series (indicated by page and section headings) composed of two main parts; one general, the other of diseases arranged by crops (see below). Whenever possible, papers are arranged under the host. However, a paper on, for instance, tobacco mosaic virus, not referring to a specific host, would come under 'viruses' rather than 'tobacco'. The monthly contents list follows the same pattern.

The general index is primarily a host-parasite-geographical index with the entries analysed under hosts and repeated in less detail under pathogens. Fungicides are indexed under the chemical names or, if well known, under proprietary names, and the pathogen against which they are used is indicated, together with the host. There are in addition a number of special entries such as 'Apparatus', 'Books', 'Legislation', 'Reports', 'Conferences', 'Plant Diseases', 'Techniques' etc.

ARRANGEMENT OF ABSTRACTS

GENERAL

REPORTS, Conferences, Symposia etc.

MISCELLANEOUS Subjects

BOOKS (on general subjects; others under specific headings)

BACTERIA (general aspects only; bacterial diseases under crops)

ENTOMOGENOUS Fungi

FUNGICIDES

ANTIBIOTICS

LEGISLATION

MYCORRHIZA

PHYSIOLOGY

SOILS (and Fertilizers)

SYSTEMATIC Mycology (including lists of fungi unless on one host only, then under host)

TECHNIQUES

VIRUSES & MYCOPLASMAS (general aspects and abstracts referring to more than one host; otherwise under crops)

DISEASES & DISORDERS

CROPS, GENERAL (plant disease surveys and lists and papers of a general nature)

CACAO CEREALS Wheat Barley Oats Rye Maize Sorghum Pennisetum Millets Rice

CITRUS

COFFEE

COTTON

FIBRES

FLOWERS (and Ornamentals)

Arranged alphabetically

FODDERS (and Herbage Crops)

Grasses

Legumes

FRUIT

Pome

Stone

Soft

BOIL

Tropical

Olive

GRAPEVINE

HOPS

OFFICINAL Plants

PALMS

POTATO

RUBBER

SUGARCANE

TEA

TOBACCO

TOMATO

TREES

Broad-leaved Conifers

Conners

Timber

VEGETABLES

Main subsections

Beet

Brassicas

Cucurbits

Legumes

Mushrooms

Other temperate

Tropical

(The entries in capitals are those used for page and section headings)

Australian States & Territories:

ACT, Australian Capital Territory; NSW, New South Wales; NT, Northern Territory; Qd., Queensland; S. Aust., South Australia; Tas., Tasmania; Vict., Victoria; W. Aust., Western Australia.

Canadian Provinces:

Alta., Alberta; BC, British Columbia; Man., Manitoba; NB, New Brunswick; NS, Nova Scotia; Ont., Ontario; PEI, Prince Edward Island; Que., Quebec; Sask., Saskatchewan.

USA States:

Ala., Alabama; Ariz., Arizona; Ark., Arkansas; Calif., California; Colo., Colorado; Conn., Connecticut; Del., Delaware; DC, District of Columbia; Fla., Florida; Ga., Georgia; Ill., Illinois; Ind., Indiana; Kans., Kansas; Ky., Kentucky; La., Louisiana; Md., Maryland; Mass., Massachusetts; Mich., Michigan; Minn., Minnesota; Miss., Mississippi; Mo., Missouri; Mont., Montana; Neb., Nebraska; Nev., Nevada; N. Hamp., New Hampshire; NJ, New Jersey; N. Mex., New Mexico; NY, New York; N. Carol., North Carolina; N. Dak., North Dakota; Okla, Oklahoma; Ore., Oregon; Pa., Pennsylvania; RI, Rhode Island; S. Carol., South Carolina; S. Dak., South Dakota; Tenn., Tennessee; Vt., Vermont; Va., Virginia; Wash., Washington; W. Va., West Virginia; Wis., Wisconsin; Wyo., Wyoming.

Languages:

Ar, Arabic; Bg, Bulgarian; Ch, Chinese; Cr, Croat; Cs, Czech; Da, Danish; De, German; En, English; Ee, Estonian; Es, Spanish; Fi, Finnish; Fr, French; Gr, Greek; Hu, Hungarian; It, Italian; Ja, Japanese; La, Latin; Lv, Latvian; Nl, Dutch or Flemish; No, Norwegian; Pl, Polish; Pt, Portuguese; Ro, Rumanian; Ru, Russian; Sr, Serbian; Sh, Serbo-Croat; Sk, Slovak; Sv, Swedish; Tr, Turkish; Uk, Ukrainian; etc.

Months:

Jan., Feb., Mar., Apr., Aug., Sept., Oct., Nov., Dec.

Organizations:

ADAS Agricultural Development & Advisory Service

CSIRO Commonwealth Scientific & Industrial Research Organization

DSIR Department of Scientific & Industrial Research

EAAFRO
East African Agriculture & Forestry Research Organization
EPPO
European & Mediterranean Plant Protection Organization
East Malling Research Station, nr. Maidstone, Kent

FAO Food & Agriculture Organization of the United Nations

IARI Indian Agricultural Research Institute, New Delhi

INRA, Versailles Station Centrale de Pathologie Vegetale et Laboratoire de Phytopharmacie, Institut National Recherches Agronomiques,

Versailles, France

IPO, Wageningen Instituut voor Plantenziektenkundig Onderzoek, Wageningen Long Ashton Agricultural & Horticultural Research Station, Long Ashton,

Bristol

Rothamsted Rothamsted Experimental Station, Harpenden, Herts.

USDA United States Department of Agriculture

In addition, a number of easily understood abbreviations are used (e.g. Univ., University). Units of measurement are abbreviated basically according to the publication Changing to the metric system (HMSO, 1969). The international symbols for the commoner chemical elements and a number of simple chemical formulae are also used.

REVIEW OF PLANT PATHOLOGY

List of Serial Publications Regularly Seen

An asterisk (*) indicates that the publication is not available at Kew.

Abstracts of Bulgarian Scientific Literature, A.

Abstracts of Mycology. USA.

*Abstracts on Tropical Agriculture. Netherlands.

Acta Agriculturae Scandinavica, Sweden.

Acta Agrobotanica. Poland.

*Acta Agronomica Academiae Scientiarum Hungaricae.

Acta Agronomica, Facultad de Agronomía, Universidad Nacional de Colombia.

Acta Biologica Iugoslavica, B. Acta Botanica Academiae Scientiarum Hungaricae.

Acta Botanica Indica.

Acta Botanica Neerlandica. Netherlands.

Acta Botanica Sinica. China.

Acta Forestalia Fennica. Finland.

*Acta Fytotecnica. Czechoslovakia.

Acta Microbiologica Polonica, A & B. Poland.

*Acta Microbiologica Sinica. China.

Acta Mycologica. Poland.

Acta Phytomedica. German Federal Republic.

Acta Phytopathologica Academiae Scientiarum Hungaricae.

Acta Phytotaxonomica et Geobotanica. Japan.

Acta Phytotaxonomica Sinica. China. Acta Průhoniciana. Czechoslovakia.

Acta Societatis Botanicorum Poloniae. Poland.

Acta Societatis pro Fauna et Flora Fennica. Finland.

ADAS Quarterly Review. UK.

*Advances in Applied Microbiology. USA.

*Advances in Virus Research. USA.

Advancing Frontiers of Plant Sciences. India.

Advisory Circular, Rubber Research Institute of Ceylon. Sri Lanka. Advisory Leaflet, Ministry of Agriculture, Fisheries & Food, UK.

*Agra University Journal of Research, Science, India.

Agricultura, Portugal.

*Agricultura Técnica. Chile.

*Agricultura Tropical. Colombia.

*Agricultural Aviation. Netherlands. Agricultural Gazette of New South Wales. Australia.

*Agricultural Meteorology. Netherlands.

Agricultural Research, Guyana.

Agricultural Research Journal of Kerala. India.

*Agricultural Research Review. United Arab Republic.

Agricultural Science, Hong Kong.

Agriculture Handbook, US Department of Agriculture.

Agriculture Hong Kong.

Agriculture Pakistan.

Agronomía, Guatemala. Agronomia Lusitana, Portugal.

Agronomia Moçambicana. Mozambique.

Agronomia Sulriograndense. Brazil.

Agronomía Tropical. Venezuela.

Agronomie Tropicale, II. France.

*Agronomy Journal. USA.

*Alexandria Journal of Agricultural Research. United Arab Republic.

Allionia. Italy.

American Horticulturist. USA.

American Journal of Botany. USA.

American Midland Naturalist. USA.

American Naturalist. USA.

American Potato Journal. USA.

Amtliche Pflanzenschutzbestimmungen. Berlin.

Anais da Escola Superior de Agricultura 'Luiz de Queiroz'. Brazil. Analele Institutului de Cercetări pentru Protecția Plantelor. Rumania.

Anales Cientificos, Departamento de Publicaciones de la Universidad Nacional Agraria, Peru.

Anales del Instituto de Biología, Universidad de México.

Anales del Instituto Botánico A.J. Cavanilles. Spain.

Anales del Instituto Nacional de Investigaciones Agrarias, Protección Vegetal. Spain.

*Anales de la Sociedad Cientifica Argentina.

*Andhra Agricultural Journal. India.

Angewandte Botanik. Berlin.

*Annales Agriculturae Fenniae. Finland.

*Annales de l'Amélioration des Plantes. France.

Annales Botanici Fennici. Finland.

Annales de l'Institut Phytopathologique Benaki. Greece.

Annales de Phytopathologie. France.

Annales des Sciences Naturelles. France.

*Annales de la Société Entomologique de France.

Annali della Facoltà di Scienze Agrarie della Università degli Studi di Torino. Italy.

Annali dell'Istituto Sperimentale per la Patologia Vegetale. Italy.

*Annals of Agricultural Science, University of A'in Shams. United Arab Republic.

Annals of Applied Biology. UK.

Annals of Botany. UK.

Annals of Missouri Botanical Garden. USA.

*Annals of the New York Academy of Sciences. USA.

Annals of the Phytopathological Society of Japan.

Annual Department Report, Director of Agriculture and Fisheries, Hong Kong.

*Annual Review of Entomology. USA. *Annual Review of Genetics. USA.

Annual Review of Microbiology. USA.

Annual Review of Phytopathology. USA. Annual Review of Plant Physiology. USA.

Annual Review, Rubber Research Institute of Ceylon. Sri Lanka.

Annual Scientific Report, Tea Research Association, India.

Antonie van Leeuwenhoek. Netherlands.

Applied Microbiology. USA.

Araneta Research Journal. Philippines.

*Archiv für Gartenbau. Berlin.

Archiv für Phytopathologie und Pflanzenschutz. Berlin.

Archives of Biochemistry & Biophysics. USA.

Archives de l'Institut de Botanique, Université de Liège. Belgium.

Archives of Microbiology. German Federal Republic.

*Arhiv za Poljoprivredne Nauke. Yugoslavia.

Arkansas Farm Research. USA.

*Arkiv för Botanik. Sweden.

Arquivos do Instituto Biológico. Brazil.

*Arquivos da Universidade Federal Rural do Rio de Janeiro. Brazil. Atas Instituto da Micologia Universidade do Recife. Brazil.

*Atti dell'Academia delle Scienze. Italy.

Atti, Laboratorio Crittogamico, Istituto Botanico della Università, Pavia. Italy,

*Australian Forest Research.

Australian Journal of Agricultural Research.

Australian Journal of Biological Sciences.

Australian Journal of Botany.

Australian Journal of Experimental Agriculture and Animal Husbandry.

Awamia, Morocco.

Bacteriological Reviews. USA.

Bayerisches Landwirtschaftliches Jahrbuch. German Federal Republic.

*Bedrijfsontwikkeling. Netherlands.

Beihefte zur Nova Hedwigia. German Federal Republic.

Beiträge zur Biologie der Pflanzen. Poland.

*Beiträge zur Tropischen Landwirtschaft und Veterinärmedezin. German Democratic Republic.

Berichte der Bayerischen Botanischen Gesellschaft zur Erforschung der Heimischen Flora. German Federal Republic.

Berichte der Deutschen Botanischen Gesellschaft. Berlin.

*Berichte des Instituts für Tabakforschung. German Democratic Republic.

Berichte des Ôhara Instituts für Landwirtschaftliche Biologie. Japan.

Berichte der Schweizerischen Botanischen Gesellschaft. Switzerland.

Berichten, Stichting Bosbouwproefstation 'De Dorschkamp'. Netherlands.

Bibliography of Systematic Mycology. UK.

Biennial Report, Division of Plant Industry, Florida Department of Agriculture and Consumer Services, USA.

Biennial Report, Hawaii Agricultural Experiment Station.

Biennial Report of the Waite Agricultural Research Institute. Australia.

Bi-monthly Research Notes, Forestry Service, Environment, Canada.

Biochemie und Physiologie der Pflanzen. German Democratic Republic.

Biochimica et Biophysica Acta. USA. Biodeterioration Research Titles. UK.

*Biológia, Czechoslovakia.

Biologia, Pakistan.

Biologia Plantarum. Czechoslovakia.

Biological Abstracts. USA.

Biological Journal of the Linnean Society, UK.

Biologicheskii Zhurnal Armenii.

Biológico, Brazil.

*Biologisches Zentralblatt. German Democratic Republic.

Bitki Koruma Bülteni. Turkey.

*Biuletyn Instytutu Hodowli i Aklimatyzacji Roślin. Poland. Biuletyn Instytutu Ochrony Roślin. Poland.

Blyttia. Norway.

Boletim da Sociedade Broteriana. Portugal.

Boletim Técnico do Instituto de Pesquisa Agropecuaria do Norte. Brazil.

Boletín, Estación Experimental Agricola de Tucumán. Argentina.

Boletín Informativo, Instituto Nacional de Tecnología Agropecuaria. Argentina. Boletín del Instituto Nacional de Investigaciones Agronómicas. Spain.

Boletín de la Sociedad Argentina de Botanica.

Boletín de la Sociedad Mexicana de Micología.

Booklet, Forestry Commission, UK.

Boron in Agriculture. UK.

Botanical Bulletin of Academia Sinica. Taiwan.

Botanical Gazette. USA.

Botanical Journal of the Linnean Society, UK.

Botanical Review. USA.

Botanicheskie Materialy Gerbariya Instituta Botaniki Akademii Nauk Kazakhskoi SSR. (Notulae Systematicae ex Herbario Instituti Botanici Academiae Scientiarum Kasachstanicae).

Botanicheskii Zhurnal. SSSR.

Botanikai Közlemények. Hungary.

*Botanique. India.

Botanisk Tidsskrift. Denmark. Botaniska Notiser. Sweden.

Bothalia. South Africa.

*Bragantia. Brazil.

British Sugar Beet Review. UK.

Brittonia. USA.

Broteria Trimestral. Portugal.

Bulletin of the Agricultural Chemical Inspection Station. Japan.

Bulletin, Agricultural Experiment Stations, University of Florida, USA.

Bulletin of the British Mycological Society. UK.

Bulletin of the California Agricultural Experiment Station. USA.

*Bulletin of the Chugoku National Agricultural Experiment Station, E. Japan.

*Bulletin of the College of Agriculture, Utsonomiya University. Japan.

*Bulletin of the College of Agriculture and Veterinary Medicine, Nihon University.

Japan.

Bulletin, Connecticut Agricultural Experiment Station. USA.

Bulletin, Department of Agricultural Technical Services, South Africa.

Bulletin, Division of Plant Industry, Florida Department of Agriculture. USA.

*Bulletin of Experimental Biology, Japan.

Bulletin, Experiment Station of the South African Sugar Association. Bulletin of the Faculty of Agriculture, Hirosaki University. Japan.

Bulletin of the Faculty of Agriculture, Kagoshima University. Japan. Bulletin of the Faculty of Agriculture, Tamagawa University. Japan.

Bulletin of the Faculty of Agriculture, Yamaguti University. Japan.

Bulletin, Forestry Commission, UK.

Bulletin of the Government Forest Experiment Station, Japan.

*Bulletin of the Hiroshima Agricultural College, Japan.

*Bulletin of the Hiroshima Prefectural Agricultural Experiment Station, Japan.

*Bulletin of the Hokuriku Agricultural Experiment Station. Japan.

Bulletin of the Indian Phytopathological Society.

*Bulletin d'Information CORESTA[Centre de Coopération pour les Recherches Scientifiques Relatives au Tabac]. France.

*Bulletin of the Institute for Agricultural Research, Tohoku University. Japan.

*Bulletin of the Iwate-ken Agricultural Experiment Station. Japan.

Bulletin du Jardin Botanique National de Belgique. Belgium. Bulletin Mensuel de la Société Linnéenne de Lyon. France.

Bulletin, Ministry of Agriculture, Fisheries and Food, UK. Bulletin of the Ministry of Agriculture and Fisheries, Jamaica.

Bulletin of the Morioka Tobacco Experiment Station. Japan.

*Bulletin of the National Grassland Research Institute. Japan.

*Bulletin of the National Institute of Agricultural Sciences, C & D. Japan.

*Bulletin of the National Institute of Hygienic Sciences. Japan.

Bulletin of the National Science Museum. Japan.

Bulletin of the New York State Agricultural Experiment Station. USA.

Bulletin of the New Zealand Department of Scientific and Industrial Research.

Bulletin des Recherches Agronomiques de Gembloux. Belgium. *Bulletin of the Shikoku Agricultural Experiment Station. Japan.

*Bulletin of the Shimane Agricultural College. Japan.

Bulletin Signalétique, 17. France.

Bulletin, Société Botanique de France.

*Bulletin de la Société d'Histoire Naturelle de Toulouse. France. Bulletin, Société Royale de Botanique de Belgique. Belgium.

Bulletin of the Tobacco Research Board of Rhodesia.

Bulletin of the Tohoku National Agricultural Experimental Station. Japan. Bulletin of the Tokai-Kinki National Agricultural Experiment Station. Japan.

Bulletin of the Torrey Botanical Club. USA.

*Bulletin of the Tottori Agricultural Experiment Station, Japan. Bulletin Trimestriel de la Societe Mycologique de France. Bulletin, United Planters' Association of Southern India.

Bulletin of the Washington Agricultural Experiment Station. USA.

Bulletin of the West Virginia University Agricultural Experiment Station. USA.

BWPA[British Wood Preserving Association] Newsheet. UK.

Byulleten' Glavnogo Botanicheskogo Sada. USSR.

Byulleten' Moskovskogo Obshchestva Ispytatelei Prirody. USSR.

Byulleten' Vsesoyuznogo Nauchno-Issledovatel'skogo Instituta Zashchity Rastenii. USSR

*Café-Cacao-Thé, France.

Cahiers de Maboké, France.

Cahiers de la Recherche Agronomique. Morocco.

California Agriculture. USA.

Canada Agriculture.

Canadian Journal of Botany.

Canadian Journal of Genetics and Cytology.

Canadian Journal of Microbiology. Canadian Journal of Plant Science. Canadian Plant Disease Survey.

Cane Growers' Quarterly Bulletin. Australia.

Časopis Moravského Musea v Brné. Czechoslovakia.

Ceiba. Honduras.

*Cereal Rusts Bulletin. Netherlands. Česká Mykologie. Czechoslovakia.

Circular, Agricultural Experiment Stations, University of Florida. USA.

Circular, California Agricultural Extension Service. USA.

Circular, Estación Experimental Agrícola de Tucuman. Argentina.

Circular, Illinois Natural History Survey. USA.

Citrograph. USA.

CMI/AAB Descriptions of Plant Viruses. UK.

CMI Descriptions of Pathogenic Fungi and Bacteria. UK.

Commonwealth Forestry Review. UK.

*Communicationes Instituti Forestalis Čechosloveniae. Czechoslovakia. Comptes Rendus de l'Académie Agricole Georgi Dimitrov. Bulgaria.

*Comptes Rendus Hebdomadaires des Séances de l'Académie des Sciences. France.

Comptes Rendus des Séances de l'Académie d'Agriculture de France.

*Comptes Rendus des Séances de la Société de Biologie. France.

Contributi, Istituto de Ricerche Agrarie. Italy.

Contribuții Botanice, Universitea 'Babeş-Bolyai' din Cluj. Rumania.

Coolia. Netherlands.

*Coton et Fibres Tropicales. France.

Cotton Growing Review. UK. Cotton Research Reports. UK.

*Crop Science. USA.

*Current Contents, Agriculture, Biology & Environmental Sciences. USA. Current Science. India.

Daffodils. UK.

Darwiniana. Argentina.

*Deltion 'Ellenikes Mikrobiologikes 'Etairias (Acta Microbiologica Hellenica) Greece.

Detailed Technical Report, Research Department, Coffee Board, India.

Developments in Industrial Microbiology. USA.

Documents Mycologiques. France.

*Doklady Akademii Nauk Belorusskoi SSR.

*Doklady Akademii Nauk SSSR.

East African Agricultural and Forestry Journal. Kenya.

Economic Botany. USA.

Eesti Loodus. Estonian SSR.

*Eesti NSV Teaduste Akadeemia Toimetised, Bioloogiya. Estonian SSR. Endeavour. UK.

*Entomologie et Phytopathologie Appliquées. Iran.

EPPO[European and Mediterranean Plant Protection Organization] Bulletin. France.

EPPO[European and Mediterranean Plant Protection Organization] Publications. France.

*Euphytica. Netherlands.

European Journal of Forest Pathology. German Federal Republic.

Excerpta Botanica, A. German Federal Republic.

Experientia. Switzerland.

Experimental Agriculture. UK.

Experimental Horticulture. UK.

Experimental Report, Rokupr Rice Research Station. Sierra Leone.

FAO Plant Protection Bulletin. Italy.

FAO[Food and Agriculture Organization of the United Nations]Various Publications, Italy.

Farmers' Bulletin, US Department of Agriculture.

Fiches de Phytopathologie Tropicale. France.

Field Crop Abstracts. UK.

Fiji Agricultural Journal, N.S.

Fitopatología. Peru.

Flora, German Democratic Republic.

Floristilised Märkmed. USSR.

Flugblatt, Bundesanstalt für Pflanzenschutz. Austria.

Folia Geobotanica & Phyto-Taxonomica Bohemoslovaca. Czechoslovakia.

Forest Insect and Disease Conditions in the US.

*Folia Microbiologica. Czechoslovakia.

Forest Pest Leaflet, Forest Service, USA.

Forest Products Research Records. UK.

Forest Record, Forestry Commission. UK.

Forest Science, USA.

Forestry. UK.

Forestry Abstracts. UK.

Forestry Research Highlights. USA.

Forward. UK.

Fragmenta Floristica et Geobotanica. Poland.

Friesia. Denmark.

*Fruits d'Outre Mer. France.

Fungi Canadenses.

Fungicide-Nematocide Tests, USA.

Garcia de Orta. Portugal.

Garden Journal of the New York Botanical Garden, USA.

Gardeners' Chronicle. UK. Gardens' Bulletin. Singapore.

Gartenbauwissenschaft. German Federal Republic.

Genetics, USA.

Ghana Journal of Agricultural Science.

*Ghana Journal of Science. Giornale Botanico Italiano.

*Gradinarska i Lozarska Nauka, Bulgaria,

Guyana Sugar Experiment Station's Bulletin.

Haryana Agricultural University Journal of Research, India.

*Hawaii Farm Science.

*Hawaiian Planters' Record.

Helminthological Abstracts, B. UK.

Herbage Abstracts, UK.

Hereditas. Sweden.

Heredity. UK.

*Herzogia. German Federal Republic.

Hilgardia. USA.

Himachal Journal of Agricultural Research. India.

Hindustan Antibiotics Bulletin, India.

Hodowla Roślin, Aklimatyzacja i Nasiennictwo. Poland.

*Holz als Roh- und Werkstoff. Berlin.

*Holzforschung. Berlin.

Horticultural Abstracts. UK.

Horticultural Research. UK. Horticultural Review, UK.

HortScience. USA.

Hungarian Agricultural Review.

IIRB[Institut International de Recherches Betteravières]. Belgium.

Index of Fungi. UK.

Indian Coffee.

Indian Forest Bulletin.

Indian Forest Records.

Indian Forester.

*Indian Journal of Agricultural Sciences. . Indian Journal of Experimental Biology.

*Indian Journal of Genetics and Plant Breeding.

Indian Journal of Microbiology.
Indian Journal of Mycological Research.

Indian Journal of Mycology and Plant Pathology.

Indian Phytopathology.

Infektsionnye Zabolevaniya Kul'turnykh Rastenii Moldavii. Moldavian SSR. Information Bulletin, New York State College of Agriculture, Cornell University. USA.

Information Series, Department of Scientific and Industrial Research, New Zealand.

Informatore Fitopatologico. Italy.

Intercepted Plant Pests. Canada.

International Biodeterioration Bulletin. UK.

International Journal of Systematic Bacteriology, USA.

*International Pest Control. UK.

Investigaciones Agropecuarias. Peru. Iowa State Journal of Research. USA.

Iranian Journal of Plant Pathology.

Irish Journal of Agricultural Research.

IRRI [International Rice Research Institute] Reporter. Philippines. Israel Journal of Botany.

Izvestiya Akademii Nauk Kazakhskoi SSR, Biologiya.

*Izvestiya Akademii Nauk SSSR, Biologiya.

Izvestiya Akademii Nauk Turkmenskoi SSR, Biologicheskikh Nauk.

Izvestiya na Botanicheskiya Institut. Bulgaria.

*Izvestiya Timiryazevskoĭ Sel'sko-khozyaĭstvennoĭ Akademii, USSR.

Jaarboekje Stichting Nederlands Graan-Centrum. Netherlands.

Jaarverslag, Laboratorium voor Bloembollenonderzoek. Netherlands.

Jaarverslag, Proefstation voor de Bloemisterij in Nederland.

Jahresbericht, Bayerische Landesanstalt für Bodenkultur, Pflanzenbau und Pflanzenschutz. German Federal Republic.

Jahresbericht. Biologische Bundensanstalt für Land- und Forstwirtschaft in Berlin und Braunschweig. German Federal Republic.

Jahresberichte des Deutschen Pflanzenschutzdienstes. German Federal Republic. Japan Pesticide Information.

Japanese Journal of Bacteriology.

*Japanese Journal of Genetics.

JARO [Japan Agricultural Research Quarterly].

JNKVV [Jawaharlal Nehru Krishi Vishwa Vidyala] Research Journal. India.

*Journal of Agricultural and Food Chemistry. USA.

Journal of Agricultural Research. Pakistan.

Journal of Agricultural Science. UK.

Journal of the Agricultural Society of Trinidad and Tobago.

Journal of Agriculture. Australia.

Journal of Agriculture, South Australia.

Journal of Agriculture of the University of Puerto Rico.

Journal of Agriculture of Western Australia.

Journal of the American Society for Horticultural Science. USA. *Journal of the American Society of Sugar Beet Technologists. USA.

*Journal of Applied Bacteriology. UK.
Journal of Applied Sciences. India.

Journal of the Australian Institute of Agricultural Science.

Journal of Bacteriology. USA.

Journal of Botany of the United Arab Republic.

*Journal of the Central Agricultural Experiment Station. Japan.

Journal of Coffee Research. India.

Journal of the Department of Agriculture and Fisheries, Irish Republic.

Journal of Ecology. UK.

*Journal of Economic Entomology. USA.

Journal of the Elisha Mitchell Scientific Society. USA.

Journal of Experimental Botany. UK.

Journal of the Faculty of Agriculture, Hokkaido University. Japan.

Journal of the Faculty of Agriculture, Iwate University. Japan. Journal of the Faculty of Science Hokkaido University, V. Japan.

*Journal of the Faculty of Science, Tokyo University, 3. Japan.

*Journal of Forestry. USA.

*Journal of General and Applied Microbiology. Japan.

Journal of General Microbiology. UK.

Journal of General Virology. UK.

Journal of Genetics. India.

*Journal of Hattori Botanical Laboratory. Japan.

Journal of Horticultural Science, UK.
Journal of the Indian Botanical Society.

Journal of Japanese Botany.

*Journal of the Japanese Forestry Society.

Journal of the Madras University, B. India.

Journal, National Institute of Agricultural Botany. UK. Journal of the Nigerian Institute for Oil Palm Research.

*Journal of Niigata Agricultural Experiment Station. Japan.

Journal and Proceedings of the Royal Society of New South Wales. Australia.

Journal of Research, Punjab Agricultural University. India.

Journal of the Royal Horticultural Society. UK.

Journal of the Royal New Zealand Institute of Horticulture.

Journal of the Royal Society of New Zealand.

Journal of the Royal Society of Western Australia.

Journal of the Rubber Research Institute of Malaya.

*Journal of Science of the Hiroshima University, B. Japan.

Journal of the Sports Turf Research Institute. UK.

*Journal of Stored Products Research, UK. Journal of Taiwan Agricultural Research.

Journal of Turkish Phytopathology.

Journal of Ultrastructure Research. (UK & USA).

Journal of the University of Poona. India.

Journal of Virology. Japan.

*Journal of Virology. USA.

Journal of the Washington Academy of Sciences, USA.

Karstenia. Finland.

Kavaka. India. Kenya Coffee.

Kertészeti Egyetem Közleményei. Hungary.

Kew Bulletin. UK.

Key to Turkish Science, Agriculture & Biological Sciences.

*Khimiya v Sel'skom Khozyaĭstve. USSR.

*Khlopkovodstvo. USSR.

Kirkia. Rhodesia.

Korean Journal of Mycology. S. Korea.

Korean Journal of Plant Protection. S. Korea.

Korean Scientific Abstracts.

*Kukuruza. USSR.

Kulturpflanze. Berlin.

Labdev. India.

Lal-Baugh. India.

Leaflet, California Agricultural Experiment Station. USA.

Leaflet, Forest Products Research Laboratory. UK.

Leaflet of the Forestry Commission, UK.

Leaflet, Texas Agricultural Experiment Station, USA.

Leaflet, United States Department of Agriculture.

Len a Konopi. Czechoslovakia.

*Lesnoe Khozyaĭstvo. USSR.

*Lietuvos TSR Mokslu Akademijos Darbai, C. Lithuanian SSR. Lilloa, Argentina.

Lloydia. USA.

- *Lucrări Științifice, Institutul Agronomic 'Dr. Petru Groza', Agricultura, Rumania.
- *Lucrări Stiințifice, Institutul Agronomic 'Ion Ionescu de la Brad', I. Rumania. Lucrări Stiințifice, Institutul Agronomic 'N. Bălcescu', A & B. Rumania.

*Maataloustieteellinen Aikakauskirja. Finland.

*Madras Agricultural Journal. India.

Madroño. USA.

Maladies des Plantes Maraîchères. France.

Malayan Agriculturist.

Malayan Forester.

Malaysian Agricultural Journal.

Malaysian Agricultural Research.

MARDI [Malaysian Agricultural Research and Development Institute] Research Bulletin.

*Material und Organismen. Berlin.

*Meddelanden från Statens Centrala Frökontrollanstalt, Sweden.

Meddelanden från Statens Växtskyddsanstalt. Sweden.

Meddelelser fra Norsk Institutt for Skogforskning, Norway.

Mededeling, Instituut voor Plantenziektenkundig Onderzoek. Netherlands.

*Mededelingen van het Instituut voor Rationale Suikerproductie. Netherlands.

Mededeling, Laboratorium voor Phytopathologie. Netherlands. Mededelingen, Landbouwhogeschool Wageningen, Nederland.

Mededeling uit het Phytopathologisch Laboratorium 'Willie Commelin Scholten'. Netherlands.

Mededeling, Plantenziektenkundige Dients. Netherlands.

Mededeling, Proefstation voor de Groenteteelt in de Volle Grond. Netherlands.

Mededelingen, Rijksproefstation voor Zaadcontrole. Netherlands.

*Mémoires de la Société Royale de Botanique de Belgique.

*Memoirs of the College of Agriculture, National Taiwan University. Memoirs of the Faculty of Agriculture, Hokkaido University, Japan.

Memoirs of the Faculty of Agriculture, Kagoshima University. Japan.

Memoirs of the Faculty of Agriculture, Niigata University, Japan.

Memoirs of the Faculty of Science, Kyushu University, Japan.

Memoirs of the Hyogo Prefectural University, University of Agriculture, Phytopathological Series. Japan.

Memoirs of the Torrey Botanical Club. USA.

Memórias de Sociedade Broteriana. Portugal.

*Mesopotamia Journal of Agriculture. Iraq.

Metrodiana. Argentina.

Michigan Botanist, USA. Microbiologia, Rumania,

*Microbiología Española. Spain.

*Microbiology Abstracts, A, B & C. UK. Mikologiya i Fitopatologiya. USSR.

*Mikrobiologichnii Zhurnal. Ukrainian SSR.

*Mikrobiologiya. USSR.

Miscellaneous Publications. Oklahoma Agricultural Experiment Station. USA.

Miscellaneous Publications, United States Department of Agriculture.

Mitteilungen der Biologischen Bundesanstalt für Land- und Forstwirtschaft. Berlin.

*Mitteilungen für die Schweizerische Landwirtschaft, Switzerland.

Mitteilungen aus dem Staatsinstitut für Allgemeine Botanik. German Federal

Monograph, American Phytopathological Society. USA.

Monographiae Botanicae. Poland.

Mushroom Journal. UK.

Mushroom Science.

Mycologia. USA.

Mycological Papers. UK.

Mycopathologia et Mycologia Applicata. Netherlands.

Mykologický Sborník. Czechoslovakia.

Mykologisches Mitteilungsblatt. German Democratic Republic.

*Mysore Journal of Agricultural Sciences. India.

Nachrichtenblatt des Deutschen Pflanzenschutzdienstes. German Federal Republic.

Nachrichtenblatt für den Pflanzenschutz in der D.D.R. German Democratic Republic.

Naturalist. UK.

Naturaliste Canadien.

Nature, UK.

Naturwissenschaften. Berlin.

Nauchnye Doklady Vysshei Shkoly, Biologicheskie Nauki. USSR.

*Nederlands Bosbouw Tijdschrift.

Netherlands Journal of Plant Pathology.

New Phytologist. UK.

New Zealand Forestry Research Notes.

New Zealand Journal of Agricultural Research.

New Zealand Journal of Agriculture.

New Zealand Journal of Botany.

New Zealand Journal of Experimental Agriculture.

*New Zealand Journal of Forestry.

*New Zealand Journal of Forestry Science.

New Zealand Journal of Science.

*Nigerian Agricultural Journal.

Niigata Agricultural Science. Japan.

Nogaku Kenkyu. Japan.

Norwegian Journal of Botany.

Notes from the Royal Botanic Garden Edinburgh. UK.

Noticias Agrícolas, Servicio para el Agricultor. Venezuela. Notiziario sulle Malattie delle Piante. Italy.

Nova Hedwigia. German Federal Republic.

*Nővenytermelés. Hungary.

Növényvédelmi Kutato Intézet Évkönyve. Hungary.

Növényvédelmi Kutato Intézet Közleményei. Hungary.

Novosti Sistematiki Nizshikh Rastenii (Novitates Systematicae Plantarum non Vascularum). USSR.

Ochrana Rostlin. Czechoslovakia.

Ohio Journal of Science. USA.

Oléagineux. France.

*Orchardist of New Zealand.

Orvza, India.

Österreichische Botanische Zeitschrift. Austria.

Outlook on Agriculture. UK.

Ovoshcharstvo. Bulgaria.

Pacific Science, Hawaii.

Pakistan Journal of Botany.

Pakistan Journal of Scientific and Industrial Research.

PANS [Pest Articles and News Summaries]. UK.

PANS [Pest Articles and News Summaries] Manual. UK.

Papua New Guinea Agricultural Journal. Pagini.

*Parasitica. Belgium.

Persoonia. Netherlands.

Pesquisa Agropecuária Brasileira, Agronomia. Brazil.

*Pesticide Biochemistry and Physiology. USA.

*Pesticide Science. UK.

Pflanzenarzt. Austria.

Pflanzenschutzberichte. Austria.

Pflanzenschutz Nachrichten Bayer. German Federal Republic.

Philippine Agriculturist.
Philippine Phytopathology.

*Philosophical Transactions of the Royal Society, B. UK.

Physiologia Plantarum. Denmark. Physiological Plant Pathology. UK. Phytiatrie-Phytopharmacie. France.

Phytologia. USA.

Phytomorphology. India.

Phyton, Argentina.

Phytoparasitica. Israel.

Phytopathologia Mediterranea. Italy.

Phytopathological Classics. USA. Phytopathological Papers, UK.

Phytopathologische Zeitschrift. German Federal Republic.

Phytopathology. USA.

Phytophylactica. South Africa. Phytoprotection. Canada.

Plant Breeding Abstracts. UK.

Plant Disease Bulletin, Biology Branch, New South Wales Department of Agriculture.

Plant Disease Reporter. USA. Plant Disease Survey. Australia.

Plant Pathology. UK.

Plant Pest and Disease Situation in the North East Region, Egypt (FAO).

Plant Physiology. USA.

Plant Protection Bulletin, Taiwan.

*Plant and Soil. Netherlands.

Plant Science Letters. Netherlands.

*Planter. Malaysia.

Planters' Bulletin. Malaysia.

*Pochvoznanie i Agrokhimiya. Bulgaria. *Polnohospodárstvo. Czechoslovakia.

Portugaliae Acta Biologica, B. Portugal.

*Postępy Nauk Rolniczych. Poland.

Potato Research. Netherlands.

Prace Instytutu Sadownictwa w Skierniewicach. Poland.

Prace Naukowe Instytutu Ochrony Roślin. Poland.

*Práce Výzkumného Ústavu Lesniho Hospodářství a Myslivosti. Czechoslovakia. Preslia. Czechoslovakia.

Principes. USA.

*Proceedings of the Arkansas Academy of Science. USA.

*Proceedings of the Association of Official Seed Analysts of America.
*Proceedings of the Association for Plant Protection of Hokuriku, Japan.

*Proceedings of the Canadian Phytopathological Society.

Proceedings of the Crop Science Society of Japan.

*Proceedings of the Florida State Horticultural Society. USA.

Proceedings of the Indian Academy of Sciences, B. India. Proceedings of the Indian National Science Academy, B.

*Proceedings of the Indiana Academy of Science, USA.
*Proceedings of the Iowa Academy of Science, USA.

*Proceedings of the Kansai Plant Protection Society. Japan.

*Proceedings, Koninklijke Nederlandse Akademie van Wetenschappen, C. Netherlands.

Proceedings of the Linnean Society of New South Wales, Australia.

Proceedings of the National Academy of Sciences of India, B.

*Proceedings of the Oklahoma Academy of Science. USA.

Proceedings of the Queensland Society of Sugar Cane Technologists, Australia.

*Proceedings of the Royal Society of Canada.

Proceedings of the Royal Society of Queensland. Australia. Proceedings of the Royal Society of Victoria. Australia.

*Proceedings and Transactions of the Royal Society of New Zealand.
*Proceedings of the Utah Academy of Sciences, Arts and Letters. USA.

Proceedings of the West Virginia Academy of Science. USA.

Progrès Agricole et Viticole. France.

Progress in Industrial Microbiology. UK.

Progress Report, Colorado State University Experiment Station. USA.

Progress Report, Experimental Husbandry Farms and Experimental Horticulture Stations. UK.

*Pubblicazioni del Centro di Sperimentazione Agricola e Forestale. Italy.

Pubblicazioni dell'Istituto di Patologia Vegetale, Università di Milano. Italy. Publicaciones Misceláneas, Estación Experimental Agricola de Tucumán.

Argentina.

Publicaciones Técnicas, Estación Experimental Pergamino. Argentina. Publicações, Instituto de Micología, Universidade do Recife. Brazil.

Publications, Department of Agriculture. Canada.

*Publication Trimestrielle Institut Belge pour l'Amélioration de la Betterave, Belgium.

Punjabrao Krishi Vidyapeeth Research Journal. India.

Quaderni, Laboratorio Crittogamico, Istituto Botanico della Università, Pavia. Italia.

*Qualitas Plantarum. Netherlands.

Quarterly Journal of Forestry. UK.

Quarterly Journal, Rubber Research Institute of Ceylon. Sri Lanka.

*Quarterly Review of Biology. USA.

Queensland Agricultural Journal. Australia.

Queensland Journal of Agricultural and Animal Sciences. Australia.

Rajasthan Journal of Agricultural Sciences. India.

Rapport d'Activité, Centre de Recherches Agronomiques de l'État. Belgium. Rapport d'Activité, Station d'Amélioration des Plantes Maraĭchères. France.

Rapport Annuel, Institut de Recherches Agronomiques Tropicales et des Cultures Vivrières. Réunion.

Rapporter, Institutionen för Virkeslära, Skogshögskolan. Sweden.

*Rasteniev"dni Nauki. Bulgaria.

Rastitelna Zashchita. Bulgaria.

Recherches Agronomiques. Canada.

Record of Agricultural Research, Ministry of Agriculture, Northern Ireland. Record of the Annual Convention of the British Wood Preservation Association.

UK.

Record of Research, East African Agriculture and Forestry Organization. Kenya.

Referativnyi Zhurnal, Biologiya & Rastenievodstvo. USSR.

Regnum Vegetabile. Netherlands.

Reinwardtia. Indonesia.

Report of Activities, Rubber Board, India.

Report of the Agricultural Department, Uganda.

Report of the Agricultural Division, Ministry of Agriculture, Forests and Wildlife, Tanzania.

Report of the Agricultural Division, Ministry of Agriculture and Natural Resources, Sierra Leone.

Report of the Agricultural Research Council. UK.

Report, Agricultural Research Division, Ministry of Agriculture, Sudan.

Report, Banana Board Research Department, Jamaica. Report, Botanic Gardens Department, Singapore.

Report, Bureau of Sugar Experiment Stations. Australia.

Report on Cacao Research. Trinidad & Tobago.

Report, Cawthron Institute for Scientific Research. New Zealand.

Report, Cocoa Research Institute, Ghana. Report, Cocoa Research Institute of Nigeria.

Report of the Coffee Board. India.

Report, Coffee Research Foundation. Kenya. Report, Commonwealth Forestry Institute. UK.

Report of the Corn Research Centre, Tainan Dais. Taiwan.

Report CSIRO [Commonwealth Scientific and Industrial Research Organization].

Australia.

Report, Cyprus Agricultural Research Institute.

Report of the Date Growers' Institute, California. USA.

Report of the Department of Agricultural Research. Malawi,

Report, Department of Agricultural Research, Nigeria. Report, Department of Agriculture, British Honduras.

Report of the Department of Agriculture, Cyprus.

Report, Department of Agriculture, Fiji.

Report of the Department of Agriculture, Malawi.

Report of the Department of Agriculture, Mauritius.

Report, Department of Agriculture, New South Wales, Australia.

Report of the Department of Agriculture, Sabah, Malaysia.

Report, Department of Agriculture, Seychelles.

Report, Department of Agriculture, Stock and Fisheries, Papua and New Guinea.

Report, Department of Hop Research, Wye College. UK.

Report, Department of Scientific and Industrial Research, New Zealand.

Report of the Director of Agriculture and Fisheries, Bermuda.

Report of the Director-General of Forests, New Zealand.

Report of the Division of Agriculture, Malaysia.

Report, Division of Plant Industry, CSIRO [Commonwealth Scientific and Industrial Research Organization]. Australia.

Report of the East Malling Research Station. UK. Report, Edinburgh School of Agriculture. UK.

Report, Experiment Station of the South African Sugar Association.

Report of the Forest Insect and Disease Survey. Canada.

Report, Forest Research Institute, New Zealand Forest Service.

Report on Forest Research. UK.

Report, Forestry Commission, Tasmania. Report of the Forestry Commission, UK.

Report of the Gezira Research Station and Substations. Sudan.

Report of the Glasshouse Crops Research Institute. UK.

Report, Hawaiian Sugar Planters' Association Experiment Station. *Report, Hokkaido National Agricultural Experiment Stations. Japan.

Report, Imperial Ethiopian Government Institute of Agricultural Research.

Report, Indian Council of Agricultural Research.

Report of the Indian Institute for Sugarcane Research.

Report, Institute for Agricultural Research and Special Services, Ahmadu Bello University. Nigeria.

Reports of the Institute for Agricultural Research, Tohoku University. Japan.

Report. Institute of Phytopathological Research. Netherlands. Report. International Institute for Tropical Agriculture. Nigeria.

Report, International Rice Research Institute. Philippines.

Report, John Innes Institute. UK.

Report, Kirton Experimental Horticulture Station. UK.

Report, Long Ashton Research Station. UK.

Report, Luddington Experimental Horticulture Station. UK.

Report, Mauritius Sugar Industry Research Institute.

Report of the Ministry of Agriculture and Lands, Jamaica.

Report of the Ministry of Agriculture and Natural Resources, Guyana.

Report of the National Institute of Agricultural Botany. UK.

Report, National Vegetable Research Station. UK.

Report of the New York State College of Agriculture at Cornell University, Ithaca, New York and of the Cornell University Agricultural Experiment Station. USA.

Report of the Nigerian Institute for Oil Palm Research.

Report of the Noda Institute for Scientific Research. Japan.

Report, Pacific Northwest Forest Experiment Station and Range Experiment Station, Oregon. USA.

Report, Pea Growing Research Organisation. UK.

Report, Plant Breeding Institute. UK.

Report of the Plant Pathologist, Department of Agriculture, Brunei.

Report, Plant Pathology Laboratory, Ministry of Agriculture, Forests and Wildlife, Tanzania.

Report, Plant Pathology Services, Malawi.

Report, Queensland Department of Primary Industries, Australia.

Report, Research Branch, Department of Agriculture, Sarawak.

Report of the Research Branch, Department of Agriculture, Ministry of Rural Development, Zambia.

Report of the Research Department of the Coffee Board, India. Report of the Research Division, Ministry of Agriculture, Kenya.

Report, Research and Specialist Services, Department of Agriculture, Ministry of Rural Development, Zambia.

Report, Research Station for Fruit Growing. Netherlands.

Report on Research and Technical Work of the Ministry of Agriculture for Northern Ireland. UK.

Report, Rosewarne Experimental Horticulture Station and Ellbridge sub-station. UK.

Report of the Rothamsted Experimental Station. UK.

Report, Rubber Research Institute of Malaya.

Report of the School of Agriculture, University of Nottingham, UK.

Report of the Scientific Research Council. Jamaica.

Report, Scottish Horticultural Research Institute. UK.

Report, Scottish Plant Breeding Station. UK.

Report of the Secretary for Agricultural Technical Services, South Africa.

Report of the Secretary for Agriculture, Rhodesia.

*Report of the Society of Plant Protection of North Japan.

Report. Stockbridge House Experimental Horticulture Station. UK.

*Report, Sugarcane Breeding Institute. India.

Report of the Taiwan Sugar Research Institute.

Report, Annual, Taiwan Sugar Research Institute.

Report, Tea Scientific Department, United Planters' Association of Southern India.

Reports of the Tottori Mycological Institute. Japan. Report, Tropical Pesticides Research Institute. Kenya.

Report, Wattle Research Institute, University of Natal. South Africa.

Report, Welsh Plant Breeding Station.

Reports on the Working of Government Departments. Malta. Research Activity Forests Commission, Victoria, Australia.

Research Bulletin, College of Agriculture Experiment Stations, University of Georgia. USA.

*Research Bulletin of the Faculty of Agriculture. Gifu University, Japan.

Research Bulletin, Missouri Agricultural Experiment Station. USA.

Research Bulletin, Ohio Agricultural Experiment Station. USA.

*Research Bulletin of the Plant Protection Service, Japan.

Research Communications, Institute for Fermentation. Japan.

Research Report, Coffee Research Station. Tanzania.

Research Report, College of Agriculture Experiment Stations, University of Georgia. USA.

Research Report, Faculty of General Agriculture, University College, Dublin.

Republic of Ireland.

Research Report, Horticulture, An Foras Talúntais. Republic of Ireland.

Research Report of the Institute of Food and Agricultural Sciences, University of Florida, USA.

*Research Reports of the Kochi University, Agricultural Science, Japan.

Research Report, Plant Sciences and Crop Husbandry Division, An Foras Talúntais, Republic of Ireland.

Research Review, Commonwealth Bureau of Horticulture and Plantation Crops. UK.

Review of Applied Entomology, A & B. UK.

Review of Medical and Veterinary Mycology. UK.

Review of Plant Protection Research, Japan.

Revista de Agricultura, Brazil.

Revista de Agricultura, Cuba.

Revista Agronomica del Noroeste Argentino.

Revista de la Facultad de Agronomía, Universidad Central de Venezuela.

Revista de la Facultad de Agronomía, Universidad Nacional de la Plata. Argentina.

Revista de la Facultad de Ciencias Agrarias, Universidad Nacional de Cuyo. Argentina.

Revista Facultad Nacional de Agronomía Medellín. Colombia.

*Revistă de Horticultură și Viticultură. Rumania.

Revista ICA [Instituto Colombiano Agropêcuario]. Colombia.

Revista Industrial y Agricola de Tucumán. Argentina.

*Revista do Instituto de Antibióticos, Universidade Federal de Pernambuco. Brazil.

*Revista de Investigaciones Agropecuarias, 2 & 5. Argentina.

*Revista Latinoamericana de Microbiología. Mexico.

Revista Theobroma. Brazil.

*Revue Agricole et Sucrière de l'Île Maurice. Mauritius.

Revue Générale de Botanique. France.

Revue Horticole. France.

Revue de Mycologie. France.

Revue Roumaine de Biologie, Botanique. Rumania.

*Revue Suisse d'Agriculture. Switzerland.

*Revue Suisse de Viticulture et Arboriculture. Switzerland.

Revue de Zoologie Agricole et de Pathologie Végétale. France.

Rhodesia Agricultural Journal.

Rhodesian Journal of Agricultural Research.

Rhodora. USA.

Richtlinien für die amtliche Prüfung von Pflanzenschutzmitteln. Berlin.

*Rickia. Brazil.

*Riso. Italy.

Rivista di Agricoltura Subtropicale e Tropicale. Italy.

*Rivista della Ortoflorofrutticoltura Italiana.

Rivista di Patologia Vegetale, Italy, *Roczniki Nauk Rolniczych, A. Poland. Roczniki Nauk Rolniczych, E. Poland.

Rodriguesia, Brazil.

Rostlinná Výroba. Czechoslovakia.

RRIC [Rubber Research Institute of Ceylon] Bulletin. Sri Lanka.

Rubber Board Bulletin, India.

Sborník Vědeckého Lesnického Ústavu Vysoké Školy Zemědělske v Praze. Czechoslovakia.

*Schweizerische Zeitschrift für Obst- und Weinbau, Switzerland.

Schweizerische Zeitschrift für Pilzkunde. Switzerland.

Science, USA.

Science in Agriculture, USA.

*Science Bulletin of the Faculty of Agriculture, Kyushu University, Japan.

*Science and Culture. India. Science Progress, UK.

*Science Reports of Niigata University, D. Japan.

Science Reports of the Yokohama National University, II. Japan. *Scientia Horticulturae. Netherlands.

Scientific Horticulture, UK.

Scientific Papers of the Central Research Institute, Japan Tobacco & Salt Public Corporation.

Scientific Papers of the College of General Education, University of Tokyo.

Scientific Proceedings of the Royal Dublin Society, A & B. Irish Republic.

Scientific Reports of the Faculty of Agriculture, Okayama University. Japan. Scientific Reports of the Indian Agricultural Research Institute.

Seed Pathology News. Denmark.

Seed Science and Technology, Norway.

*Selektsiya i Semenovodstvo. USSR.

Sellowia, Brazil.

Serving Georgia through Research, USA.

Shokubutsu Byogai Kenkyu. Japan.

*Socker, Sweden.

*Soil Biology and Biochemistry, UK.

*Soil Science, USA.

Soils and Fertilizers. UK. *Soobshcheniya Akademii Nauk Gruzinskoi SSR. Georgian SSR.

*South African Forestry Journal. South African Journal of Science.

Span, UK.

*Special Bulletin of Ishikawa Prefecture College of Agriculture. Japan.

Sports Turf Bulletin, UK.

Sri Lanka Forester.

Studi Sassaresi, III. Italy.

*Studia Forestalia Suecica. Sweden.

Studia Universitatis Babeş-Bolyai, Biologie. Rumania.

Studies in Mycology. Netherlands.

Studii și Cercetări de Biologie, Botanica. Rumania.

*Sugar y Azúcar. USA.

Sugarcane Pathologists' Newsletter. South Africa.

Svensk Botanisk Tidskrift. Sweden.

*Swedish Journal of Agricultural Research.

Sydowia. Austria. Syesis. Canada.

Symbolae Botanicae Upsalienses. Sweden.

Symposia of the Society for General Microbiology. UK.

Tasmanian Journal of Agriculture.

Tätigkeitsbericht, Bundesanstalt für Pflanzenschutz. Austria.

Taxon. Netherlands.

Tea Quarterly. Sri Lanka.

Technical Bulletin, Agricultural Experiment Station, Oregon State University. USA.

*Technical Bulletin of the Faculty of Agriculture, Kagawa University. Japan.

Technical Bulletin, Faculty of Horticulture, Chiba University. Japan. Technical Bulletin, Ministry of Agriculture, Fisheries and Food, UK.

Technical Bulletin, North Carolina Agricultural Experiment Station. USA.

Technical Bulletin, United States Department of Agriculture.

Technical Communication, Department of Agricultural Technical Services, South Africa.

Technical Note, East African Agriculture and Forestry Research Organization. Kenya.

Technical Papers, Forest Research Institute, New Zealand Forest Service.

Technical Report of the Central Rice Research Institute. India.

Technisch Bericht, Stichting Nederlands Graancentrum, Netherlands.

Természettudományi Múzeum Évkönyve. Hungary.

Theoretical and Applied Genetics. Berlin.

Tidsskrift for Planteavl. Denmark.

*Tobacco Abstracts. USA.

*Tobacco Forum of Rhodesia.

Transactions of the British Mycological Society. UK.

Transactions of the Mycological Society of Japan.

Transactions of the Botanical Society of Edinburgh. UK.

*Transactions of the Royal Society of Canada, 4.

Transactions of the Royal Society of South Australia.

Transactions of the Wisconsin Academy of Sciences, Arts and Letters

Tropical Agriculture. Trinidad and Tobago.

Tropical Agriculturist. Sri Lanka.

Tropical Science. UK.

*Tropical Stored Products Information, UK.

Trudy Instituta Botaniki, Akademiya Nauk Kazakhskoi SSR.

Trudy Nauchno-issledovatel'skogo Instituta Zashchity Rastenii Gruz. SSR.
Trudy Vsesoyuznogo Nauchno-issledovatel'skogo Instituta Zashchity Raste.
USSR.

Turrialba. Costa Rica.

*Two and a Bud. India.

*Uchenye Zapiski Gosudarstvennogo Tartuskogo Universiteta, Trudy po Botanike. Estonian SSR.

Ukraïns'kiĭ Botanichniĭ Zhurnal. Ukrainian SSR.

Unasylva. FAO, Italy.

*Union of Burma Journal of Life Sciences.

United Arab Republic Journal of Phytopathology.

University of California Publications in Botany. USA.

USDA [United States Department of Agriculture] Forest Service Research Note. USDA [United States Department of Agriculture] Forest Service Research Paper. USDA [United States Department of Agriculture] Forest Service, General Technical Note.

Utah Science. USA.

*Uzbekskiĭ Biologicheskiĭ Zhurnal. Uzbek SSR.

Växtskyddsnotiser. Sweden.

*Vědecké Práce Výzkumného Ústavu Rastlinné Výroby v Praze-Ruzyni. Czechoslovakia.

*Vědecké Práce Výzkumného Ústavu Rastlinnej Výroby v Piešťanoch. Czechoslovakia.

Veröffentlichungen des Instituts für Meeresforschung in Bremerhaven. German Federal Republic.

Verslagen en Mededelingen van den Plantenziektenkundige Dienst, Wageningen, Seperate Serie. Netherlands.

*Vestnik Moskovskogo Universiteta. USSR.

- *Vestnik Sel'sko-Khozyajstvennoj Nauki Kazakhstana. USSR. *Vestnik Sel'sko-Khozyajstvennoj Nauki, Moscow. USSR.
- *Vestsī Akademii Navuk Belaruskaĭ SSR, Biyalagīchnykh Navuk.

Victorian Plant Research Institute Reports. Australia.

*Vinodelie i Vinogradarstvo SSSR.

*Virology. USA.

*Virology Abstracts. UK. *Voprosy Virusologii. USSR.

*Vorträge aus dem Gesamtgebiet der Botanik, German Federal Republic.

Willdenowia. German Federal Republic. World Crops. UK.

Yalova-bahçe Kültürleri Araştırma ve Egitim Merkezi Dergisi. Turkey. *Yearbook of Agriculture, United States Department of Agriculture.

Zashchita Rastenii. USSR. Zaštita Bilja. Yugoslavia.

*Zeitschrift für Acker-und Pflanzenbau. Berlin.

*Zeitschrift für Naturforschung, B & C. German Federal Republic.

Zeitschrift für Pflanzenkrankheiten und Pflanzenschutz. German Federal Republic. Zeitschrift für Pilzkunde. German Federal Republic.

Zentralblatt für Bakteriologie, Parasitenkunde, Infektionskrankheiten und Hygiene, 2. German Democratic Republic.

Ziemniak. Poland.

Zöldségtermesztési Kutató Intézet Bulletinje. Hungary.

In addition to the titles listed above, other serial publications are regularly scanned for the Review of Medical and Veterinary Mycology; and many other journals not regularly searched contain occasional papers which are noticed from originals or separates when traced. Reports and proceedings of various conferences and congresses are also examined.